

converted on a basis of a light quantity detected when a standard sample is used as the object to be measured.

42. (New) The surface inspection method characterized in using the surface inspection apparatus according to claim 30, wherein the object to be measured is made of a synthetic resin.

REMARKS

Favorable reconsideration, in light of the present amendment and the following discussion, is respectfully requested.

Claims 17-42 are now pending in this application, claims 5, 7, 8, 11, and 12 having been canceled, without prejudice or disclaimer, and new claims 17-42 having been added, by the present amendment.

In the outstanding Office Action, claims 5, 7, 8, 11, and 12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Shiraishi* in view of *Haga '846* and *Worster et al.*

Applicant has canceled claims 5, 7, 8, 11, and 12, without prejudice or disclaimer, and has rewritten them as new claims 17-42.

As a quick synopsis of the applied prior art references, Applicants hereby repeat the abstracts of *Shiraishi*, *Haga '846*, and *Worster et al.*, as follows.

Shiraishi discloses that illuminating light at a pupil plane of an illumination optical system for illuminating a position detection mark on a substrate is limited to an annular area centered at an optical axis, and that a member substantially blocks an image-forming light beam distributed over an area on a pupil plane of an image-forming optical system for forming an image of the position detection mark on an imaging device by receiving light generated from the mark, the area being in image-forming relation to the annular area on the pupil plane of the illumination optical system. Alternatively, a member gives a phase

difference of approximately $\pi/2$ [rad] between the image-forming light beam distributed over the area which is in image-forming relation to the annular area on the pupil plane of the illumination optical system and the image-forming light beam distributed over the area other than that area.

Haga '846 discloses an apparatus for inspecting the surface condition of an object which comprises a light source, an optical element for directing irradiating light from the light source to an object and for converging the light reflected by the surface of the object at its back focal plane to form an image behind the back focal plane, and an observing apparatus for observing the image. An aperture stop is arranged at or near the back focal plane to cut off a scattered component of the reflected light. A half mirror having two planes forming a predetermined micro angle each other deflects the reflected light from the optical path of the irradiating light.

Worster et al. discloses a laser imaging system used to analyze defects on semiconductor wafers that have been detected by patterned wafer defect detecting systems (wafer scanners). The laser imaging system replaces optical microscope review stations now utilized in the semiconductor fab environment to examine detected optical anomalies that may represent wafer defects. In addition to analyzing defects, the laser imaging system can perform a variety of microscopic inspection functions including defect detection and metrology. The laser imaging system uses confocal laser scanning microscopy techniques, and operates under class 1 cleanroom conditions and without exposure of the wafers to operator contamination or airflow. Unlike scanning electron microscopes (SEMs) that have previously been used for defect analysis, the laser imaging system will not damage samples or slow processing, costs significantly less to implement than an SEM, can produce a three dimensional image which provides quantitative dimensional information, and allows sub-

surface viewing of defects lying beneath dielectric layers. The laser imaging system is adaptable to cluster or in-situ applications, where examination of defects or structures during on-line processing can be performed.

Applicant respectfully submits that the characteristic feature of the present invention are the steps of the surface inspection method of observing an abnormal portion of the object to be measured with a naked eye of a user of the surface inspection apparatus while varying an angle in which a difference from a normal portion is observed, selecting a condition of the angle in which the difference from the normal portion can be notably distinguished, and using the selected condition of the angle is used as an irradiation angle for the light.

By employing the above-mentioned characteristic feature of the present invention, a superior correction with the eye observation result can be obtained and the accurate and objective inspection is possible instead of the eye observation.

On the other hand, *Shiraishi, Haga '846*, and *Worster et al.* employ a somewhat similar apparatus to the present invention. However, the purpose and characteristic of *Shiraishi, Haga '846*, and *Worster et al.* is that it is possible to detect very small or minute projections and depressions of the injuries (abnormal portion) of the surface which cannot be detected by observation by the naked eye.

Further, none of *Shiraishi, Haga '846*, and *Worster et al.* teach or suggest, as is now recited in new independent claims 17 (not written in means-plus-function language) and 30 (written in means-plus-function language), that the surface inspection apparatus includes a rotatable disc-shaped plate.

Thus, the purpose of *Shiraishi*, *Haga '846*, and *Worster et al.* is quite different from the purpose of the present invention and the characteristic feature of the present invention is not taught or suggested by *Shiraishi*, *Haga '846*, and *Worster et al.* alone or in combination.

Applicant respectfully submits that new claims 17-42 do not add new matter.

Applicant also respectfully submits that new claims 18-29 are either directly or indirectly dependent upon new claim 17 so that arguments serving to patentably distinguish new claim 17 from the prior art of record are available, among others, to patentably distinguish new claims 18-29. Applicant also respectfully submits that new claims 31-42 are either directly or indirectly dependent upon new claim 30 so that arguments serving to patentably distinguish new claim 30 from the prior art of record are available, among others, to patentably distinguish new claims 31-42. Based on the foregoing, Applicant respectfully requests withdrawal of the rejection of the claims under 35 U.S.C. § 103(a) as being unpatentable over *Shiraishi* in view of *Haga '846* and *Worster et al.*, and allowance of new claims 17-42.

In view of the foregoing, new claims 17-42 are believed to be in condition for allowance, and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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IN THE CLAIMS:

Please cancel claims 5, 7, 8, 11, and 12, without prejudice or disclaimer, and rewrite as new claims 17-42, as follows:

- 5. (Canceled).
- 7. (Canceled).
- 8. (Canceled).
- 11. (Canceled).
- 12. (Canceled).
- 17-42. (New).